

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A method of performing magnetic resonance imaging (MRI) on a patient having an implantable medical device (IMD) with a telemetry unit communicating timing information as to operational conditions of the IMD, comprising:
receiving the timing information communicated from an implantable medical device (IMD) ~~wherein the timing information relates to at least one of cardiac therapy delivery and cardiac activity sensing; and~~
performing the MRI based on the timing information
applying MRI electromagnetic radiation bursts to the patient synchronized with operational conditions of the IMD based upon the timing information received, whereby tissue being imaged is placed in a substantially common state during each burst.
2. (previously presented) The method of claim 1, wherein the timing information includes sensed conditions measured by the IMD.
3. (original) The method of claim 2, further comprising sensing conditions of a patient with the IMD.
4. (previously presented) The method of claim 1, wherein the timing information defines a timing of stimulation pulses applied to a patient by the IMD.
5. (previously presented) The method of claim 1, further comprising stimulating a patient with the IMD, wherein the timing information defines a timing of the stimulation applied to the patient by the IMD.

6. (original) The method of claim 5, further comprising stimulating the patient with the IMD to induce an arrhythmia during the MRI.

7. (previously presented) The method of claim 1, wherein the IMD is a pacemaker and wherein the timing information defines a timing of a cardiac cycle.

8. (previously presented) The method of claim 1, wherein performing the MRI includes applying one or more electromagnetic radiation bursts based on the timing information.

9. (previously presented) The method of claim 1, wherein performing the MRI includes applying one or more gradient magnetic fields based on the timing information.

10. (currently amended) A method of performing magnetic resonance imaging (MRI) on a patient having an implantable medical device (IMD) with a telemetry unit communicating timing information as to operational conditions of the IMD, comprising:

stimulating a patient with an implantable medical device (IMD);

communicating timing information indicative of a timing of the stimulation;

receiving the stimulation timing information communicated from the IMD;

and

performing the MRI based on the timing information

applying MRI electromagnetic radiation bursts to the patient synchronized

with the timing of the stimulation of the patient based upon the

received timing information, whereby tissue being imaged is placed

in a substantially common state during each burst.

11. (currently amended) The method of claim 10, further comprising:
sensing conditions of the patient with the IMD;
communicating sensed conditions timing information indicative of the
sensed conditions; and
~~performing~~ applying the MRI radiation bursts to the patient synchronized
with the timing ~~based on the information~~ indicative of one of the
stimulation timing information ~~of the stimulation~~ and the sensed
conditions timing information ~~of the sensed conditions~~.
12. Cancelled.
13. Cancelled.
14. (currently amended) A method of performing magnetic resonance
imaging (MRI) on a patient having an implantable medical device (IMD) including
a telemetry unit receiving timing information as to operational conditions of the
IMD, comprising:
sending operational timing information to the IMD to invoke a particular
operational condition of the IMD;
~~sending timing information to an implantable medical device (IMD) to~~
~~define operation of the IMD during an MRI procedure; and~~
~~performing the MRI procedure in coordination and without deleteriously~~
~~interacting with the operation of the IMD, based at least in part upon the timing~~
~~information~~
applying MRI electromagnetic radiation bursts to the patient synchronized
with operational conditions of the IMD established based upon the timing
information sent to the IMD telemetry unit, whereby tissue being imaged is
placed in a substantially common state during each burst.

15. (previously presented) The method of claim 14, wherein the timing information defines a timing for application of stimulation pulses by the IMD.

16. (currently amended) A magnetic resonance imaging (MRI) device comprising:

a magnet to generate a magnetic field;

an electromagnetic radiation source to apply electromagnetic radiation bursts;

an imaging unit to generate images of patient following application of radiation bursts;

a receiver to receive timing information from an implantable medical device (IMD) that is sensing physiologic conditions of the patient and delivering stimulation therapy to the patient, wherein the timing information relates ~~relating~~ to one of the ~~application~~ delivery of an IMD a stimulation therapy to a patient and the sensing ~~receipt of sensed~~ physiologic ~~signals~~ conditions of the patient; and

a control unit to coordinate application of the electromagnetic radiation bursts based on the timing information.

17. (previously presented) The MRI device of claim 16, wherein the received timing information includes an indication of sensed conditions measured by the IMD.

18. (previously presented) The MRI device of claim 17, wherein the received timing information includes an indication of one or more stimulations applied by the IMD.

19. (currently amended) A medical device comprising:

a magnetic resonance imaging (MRI) device delivering electromagnetic radiation bursts;

an implantable medical device (IMD) operational on a basis of prescribed timed conditions;

a control unit coupled to the MRI device to ~~temporally~~ coordinate application of magnetic resonance imaging (MRI) electromagnetic radiation bursts by the MRI device with timed conditions of operation of an implantable medical device the (IMD); and

a transmitter coupled to the control unit to transmit timing information to the IMD to cause the IMD to operate in accordance with the timing information and establish a prescribed timed condition that is synchronized with the application of electromagnetic radiation bursts by the ~~temporal coordination with~~ an MRI device.

20. (original) The medical device of claim 19, wherein the medical device comprises a programmer for the IMD.

21. Cancelled.

22. (currently amended) A system comprising:

a magnetic resonance imaging (MRI) device to image a patient by applying a plurality of electromagnetic radiation bursts; ~~and~~

an implantable medical device (IMD) operating in accordance with timed conditions; - wherein application of the plurality of electromagnetic radiation bursts by the MRI device is temporally coordinated with operation of the IMD means for synchronizing application of electromagnetic radiation bursts with timed operating conditions of the IMD, whereby tissue being imaged is placed in a substantially common state during each burst.

23. (original) The system of claim 22, further comprising a programmer to coordinate operation of the IMD with the MRI device.

24. (currently amended) The system of claim 22, wherein the implantable medical device senses conditions of the patient and transmits timing information ~~to the MRI device~~ indicative of the sensed conditions, and wherein the synchronizing means causes the MRI device to apply applies the electromagnetic radiation bursts based on the timing information.

25. (currently amended) The system of claim 22, wherein the implantable medical device stimulates the patient and transmits timing information ~~to the MRI device~~ indicative of the stimulation, and wherein the synchronizing means causes the MRI device to apply applies the electromagnetic radiation bursts based on the stimulation timing information.

26. (currently amended) An apparatus comprising:
means for receiving timing information from an implantable medical device (IMD) related to timed operating conditions of the IMD; and—
means for performing magnetic resonance imaging (MRI) by applying electromagnetic radiation bursts based on the information; and
means for synchronizing application of electromagnetic radiation bursts with timed operating conditions of the IMD, whereby tissue being imaged is placed in a substantially common state during each burst.